What is claimed is:

1. A micromirror device, comprising:

an outer frame portion;

a rotational gimbal portion hinged to the frame portion and moveable relative to the frame portion about a first axis;

an inner rotational mirror portion having a reflective upper face surface hinged to the gimbal portion for movement of the mirror portion relative to the gimbal portion about a second axis; and

a plurality of truss members disposed beneath at least the inner rotational mirror portion.

2. The micromirror device according to Claim 1, wherein the truss members are arranged to form a plurality of triangular-shaped trusses.

3. The micromirror device according to Claim 1, wherein the mirror portion is 1 mm x 2 mm or greater.

4. The micromirror device according to Claim 3, wherein the micromirror device has a resonant frequency of between about 1000 to 3000 Hertz.

5. The micromirror device according to Claim 1, wherein the truss members comprise single crystal silicon having a height of between about 75 to 100 μm.

6. The micromirror device according to Claim 5 wherein the truss members have an aspect ratio of between about 5:1 to 10:1.

7. The micromirror device according to Claim 1, further comprising an oxide disposed between the mirror and the truss members.

8. The micromirror device according to Claim 1, further comprising a plurality of truss members disposed beneath the gimbal portion.

9. The micromirror device according to Claim 1, wherein the frame, gimbals, and mirror portions are formed from a single piece of material.

10. The micromirror device according to Claim 1, wherein the mirror, frame and gimbal portions are approximately 10 μm thick.

11. The micromirror device according to Claim 1, further comprising at least one magnet attached to one of the rotational portions.

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12. The micromirror device according to Claim 11, further comprising at least one pair of magnets, each of the pair of magnets positioned opposite each other on a top and bottom face of the gimbal portion, the magnet pairs adapted to symmetrically distribute the pair of magnet's mass about an axis of rotation between the frame and gimbal portions.

13. The micromirror device according to Claim 12, further comprising a pair of magnets positioned opposite each other on a top and bottom face of the mirror portion, to symmetrically distribute the pair of magnet's mass about an axis of rotation between said gimbal and mirror portion.

14. The micromirror device according to Claim 1, wherein the mirror portion comprises a mirror having a width of at least 2 mm on at least one side.

15. The micromirror device according to Claim 14, wherein the micromirror device may be utilized in fiber optic switches, fiber optic networks, optical wireless communications, scanners, and/or other micromirror applications.

16. An optical switch including a micromirror device of Claim 1.

17. A micromirror device, comprising:

an outer frame portion;

a rotational gimbal portion hinged to the frame portion and moveable relative to the frame portion about a first axis;

an inner rotational mirror portion having a reflective upper face surface hinged to the gimbal portion for movement of the mirror portion relative to the gimbal portion about a second axis; and

a plurality of truss members disposed beneath the inner rotational mirror portion and the gimbal portion, wherein at least the gimbal portion and mirror portion are formed from a single piece of material.

18. The micromirror device according to Claim 17, wherein the truss members are arranged to form a plurality of triangular-shaped trusses.

19. The micromirror device according to Claim 17, wherein the mirror portion is 1 mm x 2 mm or greater.

20. The micromirror device according to Claim 17, wherein the micromirror device has a resonant frequency of between about 1000 to 3000 Hertz.

21. The micromirror device according to Claim 17, wherein the truss members comprise single crystal silicon having a height of between about 75 to 100 μm.

22. The micromirror device according to Claim 17, wherein the truss members have an aspect ratio of between about 5:1 to 10:1.

23. The micromirror device according to Claim 17, further comprising an oxide disposed between the mirror and the truss members.

24. The micromirror device according to Claim 17, wherein the mirror, frame and gimbal portions are approximately 10 μm thick.

25. An optical switch comprising a micromirror device of Claim 17.

26. An optical switching station comprising a micromirror device of Claim 17.

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27. A method of manufacturing a micromirror device, the method comprising:

providing a silicon on insulator (SOI) wafer having a first layer bonded to a second layer, a thin oxide layer being disposed between the first and second layers, wherein the second layer is thicker than the first layer;

removing a portion of the second layer to define a truss member height in the second layer;

patterning and etching the truss member height defined areas of the second layer to form a plurality of truss members; and

patterning and etching the first layer to form a frame portion, a gimbal portion disposed within the frame portion, and a mirror portion disposed within the gimbal portion.

28. The method according to Claim 27, further comprising removing portions of the thin oxide layer.

29. The method according to Claim 27, further comprising forming a reflective coating over the frame, gimbal and mirror portions.

30. The method according to Claim 27, wherein patterning and etching the first layer to form a mirror portion comprises forming a mirror having a width of at least 2 mm on at least one side.